UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,563	07/02/2003	Zongwen Liao	T-1239	5482

802 7590 01/18/2007

PATENTTM.US
P. O. BOX 82788
PORTLAND, OR 97282-0788

EXAMINER	
SAYALA, CHHAYA D	
ART UNIT	PAPER NUMBER
1761	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/18/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/613,563	LIAO ET AL.	
	Examiner	Art Unit	
	C. SAYALA	1761	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 November 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4 and 7-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4 and 7-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1-4, 7-15 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 5, -- is- - should be inserted after "materials".

In claims 11 and 14-15, parentheses should be removed to make the claims definite. Also ranges depicting amounts should replace "~" with '-'.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Detroit (US Patent 4846871 or 5041153).

Detroit teaches grinding ammonium phosphate in 30% water (example II) and adding up to 5 wt% lignosulfonate to the fertilizer solution and then prilling the mixture. See col. 3, lines 10-70 in '153. (The disclosure of '871 is similar). See claims 6 and 8,

which teach the embodiment of the present claims. See Example III which teaches granulation of the mixture of DAP and lignosulfonate.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fischbein et al. (US Patent 5366534).

The patent teaches that ammonium phosphate (4-15%, line 65, col. 2) is ground to a fine powder, prewetted, and mixed with lignosulfonate in a high shear mixing device. The mixture is then granulated, dried and ground to the required size. See col. 3, lines 15+. Note the concentration of lignosulfonate at col. 4, lines 26. Also see the ratio of lignosulfonate to water at line 55-56 in col. 3. The patent does not teach a"slurry" or the amount of water obtained after mixing. However, the product obtained after granulation is dried. Furthermore, the patent controls the size of the granules of the product by controlling the water content. See col. 4, lines 37-44. Therefore even though the claims use a "slurry" and controls the water content before granulation and the patent controls water by controlling the wetting of the mixture and drying after the granulation, it would have been obvious that the mixture was in a water composition,

that the steps are obvious, no specific order in steps being asserted by the claims, and the end product, which is dried granules, are the same and this would have been obvious to the person of ordinary skill in the art at the time the invention was made. Note that the water content upon condensing is not given, however, since the end product is the same from the same reactants, then it would have been obvious to control such parameters as water, and such would have been within the purview of the skilled worker.

4. Claims 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rohwer (US Pub. 2004/0099027) in view of Young (US Patent 3354096), RU 2165912 and Berry et al. (US Patent 4695387) and further in view of CN 1163250.

The Rohwer publication teaches that to a slurry of zeolite (10%), ammonium phosphate solution is added and dried, see page 2, paragraph [0021] and claims. The patent does not teach adding the phosphate as a powder, acidifying or that the slurry is granulated.

Young teaches that effective phosphate binding is obtained, at its strongest, at low pH values, between about 3.5 and 6.0 (see col. 4, lines 30-35). The patent teaches a zeolite slurry with ammonium phosphate. The wet mixture is then dried and pelleted (see col. 3, lines 57-62).

RU 2165912 teaches preparing granulating nitrogen phosphorus fertilizer, such as ammonium phosphate by neutralizing ammonia and phosphoric acid with sulfuric acid and applying this to zeolite. The mixture is dried and granulated.

Berry et al. teach that a pH between 4 and 6 is an ideal range of operation for the zeolite adsorbent (see col. 3, lines 48-60), where the ammonia and phosphoric acid are reacted.

CN 1163250 discloses that the zeolite is crushed and compounded with ammonium phosphate and pelletized. It is disclosed as a fertilizer and the composition being synergistic.

To form a slurry from powdered ammonium phosphate would have been an obvious expedient because solutions and slurries are generally formed from solids or powders. To incorporate sulfuric acid with the zeolite would also have been obvious because, it was generally well known in the art at the time the invention was made that a low pH was very effective for zeolite-phosphate binding and the addition of sulfuric acid was also known. Amounts would have been obvious to one of ordinary skill in the art from those shown by the references. See Rohwer et al. in particular. Other parameters such as controlling the water content, are conditions of the process, shown by these references, and therefore within the ambit of ordinary skill to determine.

Response to Arguments

Applicant's arguments filed 11/13/2006 have been fully considered but they are not persuasive.

Applicant's amendment to claim 1 to correct the amounts and his arguments based on this, have caused the withdrawal of the rejections of claim 1 and the claims depending from them. However, the amendment to claim 1 and applicant's arguing that the release-controlling materials is 3-35 wt% of the ammonium phosphate and that the references do not disclose such, cannot be applied to claims 10 and 12, since there are no amounts limiting such claims, claim 10 being an independent claim. The rejections are, therefore being maintained since the arguments of record are ineffective to overcome claims 10 and 12, as well as the rejection at paragraph 4 above, with regard to claims 10-13.

Claims 1-4, 7-9 are allowable over art of record based on the amendment filed and arguments of record. Claims 14 and 15, dependent upon a rejected base claim, would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and if rewritten incorporating the correction required by paragraph 1, above.

Conclusion

As requested by applicant, a PTO-form 892 is being re-sent that includes all the US references applied by the examiner.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. SAYALA whose telephone number is 571-272-1405.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C. SAYALA
Primary Examiner
Group 1700.